

(2) The information specified in § 159.005-5(a)(2) (i) through (iii) of this chapter must be included in the application, except that, if preapproval review has been waived, the manufacturer is not required to send a prototype PFD sample to the Commandant.

(3) The type of performance (Type I, II, or III) that the PFD is designed to provide along with the Approval Type sought (Type I, II, III, or V).

(4) Any special purpose(s) for which the PFD is designed and the vessel(s) or vessel type(s) on which its use is intended.

(5) Buoyancy, torque, and other relevant tolerances to be met during production.

(6) The text of any optional marking to be included on the PFD in addition to the markings required by § 160.076-39.

(7) A draft of the information pamphlet required by § 160.076-35.

(8) A draft of the owner's manual required by § 160.076-37.

(9) For any conditionally approved PFD, the intended approval condition(s).

(d) The description required by § 159.005-9 of this chapter of quality control procedures may be omitted if the manufacturer's planned quality control procedures meet the requirements of §§ 160.076-29 and 160.076-31.

(e) *Manual and pamphlet.* Before granting approval of a PFD design, the Commandant may require changes to the manual and information pamphlet submitted for review to ensure compliance with the requirements of §§ 160.076-35 and 160.076-37.

(f) *Waiver of tests.* A manufacturer may request that the Commandant waive any test prescribed for approval under this subpart. To request a waiver, the manufacturer must submit to the Commandant and the recognized laboratory, one of the following:

(1) Satisfactory test results on a PFD of sufficiently similar design as determined by the Commandant.

(2) Engineering analysis demonstrating that the test for which a waiver is requested is not appropriate for the particular design submitted for approval or that, because of its design or construction, it is not possible for the PFD to fail that test.

(g) *Alternative requirements.* A PFD that does not meet the requirements of this subpart may be approved by the Commandant if the device—

(1) Meets other requirements prescribed by the Commandant in place of or in addition to the requirements of this subpart; and

(2) As determined by the Commandant, provides at least the same degree of safety provided by other PFDs that meet the requirements of this subpart.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-15 Suspension or termination of approval.

As provided in § 159.005-15 of this chapter, the Commandant may suspend or terminate the approval of an inflatable PFD design if the manufacturer fails to comply with this subpart or the recognized laboratory's accepted procedures or requirements.

§ 160.076-17 Approval of design or material changes.

(a) The manufacturer must submit any proposed changes in design, material, or construction to the recognized laboratory and the Commandant for approval before changing PFD production methods.

(b) Determinations of equivalence of design, construction, and materials may be made only by the Commandant or a designated representative.

§ 160.076-19 Recognized laboratories.

(a) *PFDs.* The following laboratories are recognized under § 159.010-9 of this chapter to perform the approval and production oversight functions required by this subpart:

Underwriters Laboratories, Inc., 12 Laboratory Drive, P.O. Box 13995, Research Triangle Park, NC 27709-3995, (919) 549-1400.

(b) *Components.* The following laboratories are recognized under subpart 159.010 of this chapter and may perform the component material acceptance, production oversight, and certification functions required by § 160.076-21(a)(1):

Underwriters Laboratories, Inc., 12 Laboratory Drive, P.O. Box 13995, Research Triangle Park, NC 27709-3995, (919) 549-1400.

§ 160.076-21 Component materials.

(a) Each component material used in the manufacturer of an inflatable PFD must—

(1) Meet the applicable requirements of subpart 164.019 of this chapter, UL 1191, UL 1180, and this section; and

(2) Be of good quality and suitable for the purpose intended.

(b) The average permeability of inflation chamber material, determined in accordance with the procedures specified in § 160.076-25(d)(2)(iii) must not be more than 110% of the permeability of the materials determined in approval testing required by § 160.076-25(d)(2)(iii).

(c) The average grab breaking strength and tear strength of the inflation chamber material, determined in accordance with the procedures specified in §§ 160.076-25(d)(2)(i) and 160.076-25(d)(2)(ii), must be at least 90% of the grab breaking strength and tear strength determined from testing required by §§ 160.076-25(d)(2)(i) and 160.076-25(d)(2)(ii). No individual sample result for breaking strength or tear strength may be more than 20% below the results obtained in approval testing.

(d) Each manual, automatic, or manual-auto inflation mechanism must be marked in accordance with § 160.076-39(e).

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-23 Construction and performance requirements.

(a) Each inflatable PFD design must—

(1) Meet the requirements in UL 1180 applicable to the PFD performance type for which approval is sought; and

(2) Meet any additional requirements that the Commandant may prescribe to approve unique or novel designs.

(b) [Reserved]

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-25 Approval testing.

(a) To obtain approval of an inflatable PFD design, approval tests specified in UL 1180 and this section must be conducted or supervised by a recognized laboratory using PFDs that have been constructed in accordance with the plans and specifications submitted with the application for approval.

(b) Each PFD design must pass the tests required by UL 1180 and this section that are applicable to the PFD performance type for which approval is sought.

(c) Each test subject participating in the tests in UL 1180, section 6 shall in addition, demonstrate that the test subject can repack the PFD such that it can be used in the donning tests and manual activation tests required by—

(1) Section 6.2.3 of UL 1180; and

(2) Sections 6.4.1, and 6.4.2 of UL 1180, if the test engineer cannot verify that the manual and oral inflators are properly stowed.

(d) Each PFD design must pass the following tests and evaluations:

(1) *Visual examination.* The complete PFD must be visually examined for compliance with the construction and performance requirements of §§ 160.076-21 and 160.076-23 and UL 1180 and 1191.

(2) *Inflation chamber properties.* The following tests must be conducted after successful completion of all other approval tests. The test samples used in the following tests must come from one or more PFDs that were each used in all the Use Characteristics Tests required by UL 1180 section 6.

(i) *Grab breaking strength.* The grab breaking strength of chamber materials must be determined in accordance with Method No. 5100 of Federal Test Method Standard 191 or ASTM D 751.

(ii) *Tear strength.* The tear strength of chamber materials must be determined in accordance with Method No. 5132 or 5134 of Federal Test Method Standard 191 or ASTM D 751.

(iii) *Permeability.* The permeability of chamber materials must be determined in accordance with ASTM D 1434 using CO₂ as the test gas.

(iv) *Seam strength.* The seam strength of the seams in each inflation chamber of at least one PFD must be determined in accordance with ASTM D 751 except that 25 by 200 mm (1 by 8 in.)